

Written Opinion of the Inter-  
national Searching Authority

PCT/DE2004/001158

Appended Sheet

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**Re Point V.**

- 1 In the present opinion, reference is made to the following documents:
- D1: WO 02/097160 A (MEGA MASAHIKO ; OHARA MINORU (JP) ; MITSUBISHI HEAVY IND LTD (JP)), December 5, 2002 (2002-12-05)
- D2: US 4,622,445 A (MATSEN MARC R), November 11, 1986 (1986-11-11)
- D3: EP 1 065 297 A (GEN ELECTRIC), January 3, 2001 (2001-01-03)
- D4: US 2002/119338 A1 (BUDINGER DAVID EDWARD ET AL) August 29, 2002 (2002-08-29)
- D5: US 5,264,011 A (BROWN LAWRENCE E ET AL) November 23, 1993 (1993-11-23)
- D6: EP 1 029 629 A (EUROMAT GMBH), August 23, 2000 (2000-08-23)
- D7: US 2,166,998 A (JOHN G. MOGAN), July 25, 1939 (1939-07-25).
- D8: PATENT ABSTRACTS OF JAPAN, Vol.1996, no.06, 28 June 1996 (1996-06-28) & JP 8055865 A (FUJI ELECTRIC CO LTD), FEBRUARY 27 1996 (1996-02-27).

2 INDEPENDENT CLAIM 1

- 2.1 The present application does not satisfy the requirements of Article 33(1) PCT, because the subject matter of Claim 1 is not based on an

inventive activity in the sense of Article 33(3)  
PCT.

2.1.1 Document D1 is considered to be the related art closest to the subject matter of Claim 1. It describes (the references in brackets relate to the corresponding document EP-A-1391537 (02/25/2004)) a method for cladding the tips of rotor blades of a gas turbine power plant using metal layers having hard particles (e.g. Al<sub>2</sub>O<sub>3</sub>), the metal containing the embedded hard particles being applied to a solder foil as a Co layer or an Ni layer, which, corresponding to the geometry of the blade tips that are to be clad, are cut to size as a blank and melted onto the tip surface using heating (see column 8, line 47 to column 10, line 15; column 11, line 10 to line 19; column 13, lines 7-18; column 13, line 38 to column 14, line 11; column 17, line 23 - line 29; Claims 1,7,9; Figures 1-5)..

These features are also known from documents D3,D4,D5.

2.1.2 Therefore, the subject matter of Claim 1 differs from that of D1 (and D3,D4,D5) in that the blank is melted onto the blade tip using a pressure force and

after inductive heating of the blade tip.

D2 describes a method for welding together parts having an embedded solder foil, the parts to be welded being heated inductively and pressed together (see Claim 1).

2.1.3 D6 describes a method for producing a protective layer onto the surface of a component part, a band-type mass, produced from powdery soldering material (also containing hard material powder such as oxides..) being formed to an element adapted to the dimensions of a wear area present in the surface of the component part, is inserted into this wear area, and is submitted to a heat treatment, preferably using an induction coil.

2.1.4 Therefore, one skilled in the art would combine all the features disclosed in D1, D2 and D6 with one another to achieve the objective set without an inventive step. The design approach proposed in independent Claim 1 can therefore not be regarded as inventive (Article 33(3) PCT).

3. DEPENDENT CLAIMS 2-5

Claims 2-5 contain no features that, in combination with the features of any claim to which they relate, satisfy the requirements of the PCT with regard to

novelty and inventive step. The reasons for this are as follows: They are known to one skilled in the art and/or described in D1-D8 and/or from documents named in the Search Report.

4. INDEPENDENT CLAIM 6

The present application does not satisfy the requirements of Article 33(1) PCT, because the subject matter of Claim 6 is not based on an inventive activity in the sense of Article 33(3) PCT.

- 4.1 D7 describes a device for welding together rotary blade parts of a gas turbine power plant, by the use of heat and pressure, a solder foil situated between the parts to be welded, welds the parts together. A rotary blade holder is also situated there (see Figures 1-4; page 1, column 2, line 35 to page 2, column 2, lines 1-39).
- 4.2 D8 describes a device for welding together parts, by the use of inductive heating and pressure, a solder foil, situated between the parts to be welded, welding the parts together.
- 4.3 Therefore, one skilled in the art would combine all features disclosed in D7 and D8 to attain the objective set without an inventive addition. The

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design approach proposed in independent Claim 6 can therefore not be regarded as inventive (Article 33(3) PCT) .